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| Form PTO-1449 U.S. Department of Commerce<br>(REV. 8-83) Patent and Trademark Office<br><br>INFORMATION DISCLOSURE CITATION<br>(use several sheets if necessary) | Atty. Docket No. Enz-7<br>(C2)(P)(C2)        | Serial No. 07/967,646 |
|  | Applicants: Jannis G. Stavrianopoulos et al. |                       |
|  | Filed: October 28, 1992                      | Group: 1807           |

## U.S. PATENT DOCUMENTS

| EXAMINER<br>INITIAL | DOCUMENT NUMBER | DATE     | NAME                     | CLASS | SUB<br>CLASS | FILING<br>DATE IF<br>APPRO-<br>PRIATE |
|---------------------|-----------------|----------|--------------------------|-------|--------------|---------------------------------------|
| AM                  | 4 3 5 8 5 3 5   | 11/09/92 | Falkow <i>et al.</i>     | 435   | 5            |                                       |
| AM                  | 4 7 1 1 9 5 5   | 12/08/87 | Ward <i>et al.</i>       | 536   | 29           |                                       |
| AM                  | 5 2 4 1 0 6 0   | 08/31/93 | Engelhardt <i>et al.</i> | 536   | 27           |                                       |
| AM                  | 3 6 6 9 8 4 1   | 06/13/72 | Miller                   | 195   | 63           |                                       |
| AM                  | 3 7 1 5 2 7 8   | 02/06/73 | Miller                   | 195   | 63           |                                       |
| AM                  | 3 9 4 9 0 6 4   | 04/06/76 | Bornstein <i>et al.</i>  | 424   | 1            |                                       |
| AM                  | 4 0 0 1 5 8 3   | 01/04/77 | Barrett                  | 250   | 303          |                                       |
| AM                  | 4 0 5 9 6 8 5   | 11/22/77 | Johnson                  | 424   | 12           |                                       |
| AM                  | 4 1 2 0 9 4 5   | 10/17/78 | Gutcho <i>et al.</i>     | 424   | 1            |                                       |
| AM                  | 4 2 8 0 9 9 2   | 07/28/81 | Sugiura <i>et al.</i>    | 424   | 1            |                                       |
| AM                  | 4 3 7 6 1 0     | 03/08/83 | David <i>et al.</i>      | 436   | 513          |                                       |

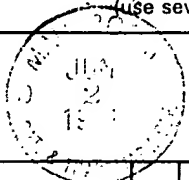
## FOREIGN PATENT DOCUMENTS

|    | DOCUMENT NUMBER  | DATE                | COUNTRY                      | CLASS | SUB<br>CLASS | TRANSLATION |    |
|----|------------------|---------------------|------------------------------|-------|--------------|-------------|----|
|    |                  |                     |                              |       |              | YES         | NO |
| AM | 2 0 1 9 4 0 8 A  | 10/31/79            | UK <i>Kaurilabs et al.</i>   | —     | —            |             |    |
| AM | 0 0 6 3 8 7 9 B1 | 11/3/82<br>11/23/89 | EPO <i>Ward et al.</i>       | —     | —            |             |    |
| AM | 0 0 7 0 6 8 5    | 01/26/83            | EPO <i>Heller et al.</i>     | —     | —            |             |    |
| AM | 0 0 7 0 6 8 7    | 01/26/83            | EPO <i>Heller et al.</i>     | —     | —            |             |    |
| AM | 0 0 9 7 3 7 3 B1 | 1-4-84<br>10/07/92  | EPO <i>Engelhardt et al.</i> | —     | —            |             |    |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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| AM   | Langer et al., "Enzymatic Synthesis of Biotin-Labeled Polynucleotides: Novel Nucleic Acid Affinity Probes," <u>Proc. Natl. Acad. Sci. (USA)</u> , <u>78 (11)</u> :6633-6637 (Nov. 1981)  |                 |                |
| AM   | Ruth et al., "C-5 Substituted Pyrimidine Nucleosides.1.Synthesis of C-5 Allyl, Propyl, and Propenyl Uracil and Cytosine Nucleosides via Organopalladium Intermediates," <u>J. Org. Chem.</u> <u>43(14)</u> :2870-2876 (1978)       |                 |                |
| AM   | Bergstrom et al., "C-5 Substituted Pyrimidine Nucleosides.2.Synthesis, via Olefin Coupling to Organopalladium Intermediates Derived from Uridine and 2'-Deoxyuridine," <u>J. Amer. Chem. Soc.</u> <u>100(26)</u> :8106-8112 (1978) |                 |                |
|  |  |                 |                |
| EXAMINER   | <i>Arthur Masher</i>   | DATE CONSIDERED | <i>7-22-94</i> |
| *EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. include copy of this form with next communication to applicant. |  |                 |                |

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|---------------------|-----------------|----------|--------------------------------|-------|--------------|---------------------------------------|
| AM                  | 4 3 1 2 9 4 4   | 01/26/82 | Mattiasson, <i>et al.</i>      | 435   | 7            |                                       |
| AM                  | 4 5 8 1 3 3 3   | 04/08/86 | Kourilsky, <i>et al.</i>       | 435   | 6            |                                       |
| AM                  | 4 4 8 3 9 2 0   | 11/20/84 | Gillespie, <i>et al.</i>       | 435   | 6            |                                       |
| AM                  | 4 3 9 1 9 0 4   | 07/05/83 | Litman, <i>et al.</i>          | 435   | 7            |                                       |
| AM                  | 4 9 9 4 3 7 3   | 02/19/91 | Stavrianopoulos, <i>et al.</i> | 435   | 6            |                                       |
| AM                  | 4 5 6 3 4 1 9   | 01/07/86 | Ranki, <i>et al.</i>           | 435   | 6            |                                       |
| AM                  | 4 2 7 1 1 4 0   | 06/02/81 | Bunting                        | 424   | 1            |                                       |
|                     |                 |          |                                |       |              |                                       |
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|----|------|-----------------|----------|--------------------------------|-------|--------------|-------------|----|
|    |      |                 |          |                                |       |              | YES         | NO |
| AM | WO   | 8 3 0 2 2 7 7   | 07/07/83 | Kourilsky, <i>et al.</i>       | —     | —            |             |    |
| AM | GB A | 2 0 1 4 7 2 7   | 07/30/79 | GB, Sanger, <i>et al.</i>      | —     | —            |             |    |
|    | DE A | 2 9 1 5 0 8 2   | 10/31/79 | Germany                        | —     | —            |             | X* |
| AM | DE A | 2 7 2 4 4 8 6   | 12/22/77 | Germany, Wustly, <i>et al.</i> | —     | —            |             | X* |
| AM | GB A | 2 0 2 6 6 9 0   | 02/06/80 | GB, Bregenhof, <i>et al.</i>   | —     | —            |             |    |

\* English abstracts and U.S. Patents from the family have been provided in the Supp. IDS.

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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| AM   | Bigge et al., "Palladium-Catalyzed Coupling Reactions of Uracil Nucleosides and Nucleotides," <i>J. Amer. Chem. Soc.</i> 102:2033 (1980)   |
| AM   | Weetal et al., "Porous Glass for Affinity Chromatography Applications," <i>Methods in Enzymology</i> , Vol. 34, <i>Affinity Techniques Enzyme Purification: Part B</i> , pp. 59-72 (Jakoby, W.B. and Wilchek, M., eds.) (1974) |
| AM   | Filippusson et al., "The Preparation and Properties of Yeast $\beta$ -Fructofuranosidase," <i>Biochem. J.</i> 120:215-219 (1970)   |
| AM   | Chard T., <i>An Introduction To Radioimmunoassay And Related Techniques</i> , Elsevier Science Publishers, B.V. (1978)   |
| EXAMINER <i>Andin Mersel</i> DATE CONSIDERED 7-22-94   |  |
| *EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. |  |

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| AM              | Grunstein, M., "Colony Hybridization: A Method For The Isolation of Cloned DNAs That Contain A Specific Gene," <u>Proc. Natl. Acad. Sci. (USA)</u> <b>72</b> :3961-3965 (1975)   |
| AM              | Stavrianopoulos et al., "Glycosylated DNA Probes For Hybridization/ Detection of Homologous Sequences," presented at the Third Annual Congress For Recombinant DNA Research (1983)   |
| AM              | Singer et al., "Actin Gene Expression Visualized In Chicken Muscle Tissue Culture by Using <u>In Situ</u> Hybridization With A Biotinated Nucleotide Analog," <u>Proc. Nat'l Acad. Sci (USA)</u> <b>79</b> :7331-7335 (1982) |
| AM              | Kennell, "Principles and Practices of Nucleic Acid Hybridization," <u>Progr. Nuc. Acid. Res. Mol. Biol.</u> , Vol. <b>11</b> , pp. 259-262 (1971)  |
| EXAMINER        | <i>Adrian Marshall</i>   |
| DATE CONSIDERED | <i>7-22-94</i>   |

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| AM              | Alberts et al., <u>Molecular Biology of the Cell</u> , Garland Publishers, New York and London (1983), p. 719  |
| AM              | Hood et al., <u>Immunology</u> , Benjamin/Cummings Publishing Co., Inc. Menlo Park, CA (1978), p. 142  |
| AM              | Schuurs et al., "Enzyme Immunoassay," <u>Clinica Chimica Acta</u> 81:1-40 (1977)   |
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|                 | <del>Leary et al., "Rapid and sensitive colorimetric method for visualizing biotin labeled DNA probes hybridized to DNA or RNA immobilized on nitrocellulose: Bio blots," <u>Proc. Natl. Acad. Sci. (USA)</u> 80:4045-4046 (July 1983)</del> |
| EXAMINER        | <i>Adrian Marschel</i>   |
| DATE CONSIDERED | <i>7-22-94</i>   |

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| AM       |                      | Guesdon et al., "The Use of Avidin-Biotin Interaction in Immunoenzymatic Techniques," <u>Journal of Histochemistry and Cytochemistry</u> 27(8):1131-1139 (1979)                                     |
|          | /                    | <del>Avrameas et al., "Enzyme immunoassay for the measurement of antigens using peroxidase conjugates," <u>Biochimie</u> 54:837-842 (1972)</del>  |
| AM       |                      | Bauman et al., "A new method for fluorescence microscopical localization of specific DNA sequences by in situ hybridization of fluorochrome-labelled RNA," <u>Exp. Cell Res.</u> 128:485-490 (1980) |
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| EXAMINER | <i>Adin Marschel</i> | DATE CONSIDERED <i>7-22-94</i>  |

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